



Mediæval Woodwind Instruments of Silver

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pieces for orphica by Ludwig van Beethoven. These were composed for Wegeler's future wife, Eleonore von Breuning. The two pieces are now in the Beethoven-Haus in Bonn where they are identified as: an autograph fragment of *Sonate für Klavier* (C-dur), ms WoO 51 from the Wegeler collection. According to Dr Kopitz both pieces have a very small compass: the first (*Allegro*) has 3 octaves *c-c*³; the second (*Adagio*) 3½ octaves *G-c*³. Dr Kopitz

plans to publish an article about them.

Finally a small correction to the bibliography of the orphica in the Carolino Augusteum in Salzburg (item 14 in the appendix to my *GSJ* article) - it should be: Kurt Birsak, 'Klaviere in Salzburger Museum Carolino Augusteum', *Jahresschrift des Salzburger Museum Carolino Augusteum*, Bd. 34 (1988), p. 98-9, Fig. 19b.

BENJAMIN VOGEL

Mediæval Woodwind Instruments of Silver

Lisa Jefferson has drawn my attention to two entries in her recent publication of the Wardens' Accounts for the Goldsmiths' Company of London.¹ These relate to instruments that were commissioned by the four Wardens in the time of Richard II and remained in use in the reign of Henry V: two trumpets, and two clarions, and four woodwind instruments: three shawms and a 'cornmuse'. Since the weights of all the instruments

were given in Troy units it looked as though the 'woodwind' might also be of silver, a material which I had thought was only used for such instruments from the early nineteenth century onwards.

The first reference, which dates from 1391-2,² records that the wardens for that year, the 14th-15th of Richard II's reign, have received a number of instruments from last year's wardens (the original document is illustrated in Figure 1):

Fait a remembrer qe Estevene de Thorp, Johan Lyncolne, Richard Brook et William Grantham ount deliverez de novel fait trumpes, clarions et pipes, c'est assavoir a Thomas Davy, Johan Honte, Thomas Lamport et William Haper, gardeyns, les trumpes poisant x marcs viii³ ounces et demi de pois de Troye.

Item, les clarions poisaunt vii marcz x d. du pois de Troye.

Item, schalmuse petit poisaunt xi ounces et viii d. du pois de Troye.

Item, un bombard poisant iiii marcs demi i ounce et v d. de mesme pois, ové le portour.

Item, un graunt schalmuse poisaunt ii li. ix s. ii d. de pois de Troye ové le portour.

Item, un cornmuse – i marc et xi d. de mesme pois.

Item, pur les iiii pipes, païé al menstrelle – xxv s. iiii d.

Summa del pois – xxviii marcs i ounce et xiiii d.

Memorandum that Stephen de Thorp, John Lincoln, Richard Brook and William Grantham have handed over newly made trumpets, clarions and pipes [wind instruments], i.e. to Thomas Davy, John Honte, Thomas Lamport and William Haper, wardens, the trumpets weighing 10 marks 8½oz. Troy weight. Item, the clarions weighing 7 marks 10d. Troy weight.

Item, a small shawm weighing 11oz 8d. Troy weight.

Item, a bombard weighing 4½ marks 1oz 5d. of the same weight, with a carrier. [This might be either a strap or a carrying case, the former perhaps being more probable.]

Item, a large shawm weighing £2 9s. 2d. Troy weight, with a carrier.

Item, a horn-pipe - 1 mark 11d. of the same weight.

Item, for the 4 pipes, paid to the minstrel - 25s. 4d.

Total weight - 28 marks 1oz 14d.

In the previous year the retiring wardens for 1390-1 (the first four named above) had received from their predecessors two trumpets weighing 10 marks and ½ ounce,⁴ which clarifies this reference to new trumpets, for the weight, 80oz and 10 penny-

weights (d.), is so similar that of the new trumpets in the list immediately below, that there must again have been two. These older trumpets had been handed on year by year, though not always noted in the accounts, and 1390-91 is the only year in which their weight was

¹ *Wardens' Accounts and Court Minute Books of the Goldsmiths' Mystery of London, 1334-1446*, ed. Lisa Jefferson (Woodbridge: Boydell Press, 2003). Both original texts and translations are from her edition. I am very grateful for her permission to quote them, and for her encouragement to produce this article, based on her work. She has provided many very helpful comments to my text.

² Dr Jefferson's page 236.

³ This figure for ounces has been written above a scored figure of 'ii' – original note by Lisa Jefferson.

⁴ Jefferson, p. 234.

stated. In year 5 of Richard II's reign they had been repaired with half a mark (Tower weight) of new metal ($4\frac{1}{4}$ oz a.d.p. or 120.5g),⁵ and in his year 11 new banners had been made for them at the cost of 26s. 8d.⁶ There is no earlier reference to these trumpets, though the engagement of a trumpeter and eight other minstrels is noted for the Lord Mayor's Procession in 1369.⁷

By reducing everything to ounces and penny-weights, for simplicity and greater clarity, we get the quantities shown in Table 1, but if the 8oz for the new

trumpets is reduced to 2 (see note 3), then it comes to 28 marks 1oz 16d., only 2d. more than their total.

The second reference, dating from 1420 in Henry V's reign,⁸ adds another four trumpets and clarions, and goes into considerably more detail on them. It refers back to these 'pipes', specifically saying that they were indeed of silver. The material for the trumpets and clarions is never stated, but I think we may assume that it was silver rather than gold (troy weight was not used for brass):

Trompes & Clarions – the makynge & weight of them – A^o viii Henrici V^{ti}

Hit is to have in mynde that in the day of Seint Dunstoun the viii yere of owre kyng Henry the V^e, John Standelf, John bithe Water, Richard Spencer & John Mablian beyng wardeins in that tyme of the craft of goldsmythrye maden a deliveraunce to Salamon Oxney, John Paake, John Paddesle & John Martyn, wardeins for the year than next comynge & to here successours wardeins – iiiii trumpys & iiiii claryouns, the wych iiiii trumpys & iiiii claryouns John Standelf, John bithe Water, & here felawes wardeins dede to make newe. And there longethe to every trump vii pieces & marked bi the lettres of a b c. And ther longethe to every claryoun viii pieces & marked be the lettres of a b c. And othir xi longettys not marked. And xvi pomellis gylt. Summa of all the pieces of the forseyd trumpys & claryounis amounthen – iiiii^{xx} vii weyng bi the poys of Troie -- xxii li. vii uncis di. un quarterun.

And al the alde pypes of silver as thei were written in the tyme of here makynge as in the paper moore openly declarys how many there be and of here poys bi the poys of Troye.

Memorandum that on St Dunstan's Day in the year 8 Henry V [19 May 1420] John Standelf, John atte Water, Richard Spencer and John Mablean being at that time wardens of the Goldsmiths' Mistery handed over to Solomon Oxney, John Pake, John Pattesley and John Martyn, wardens of the following year, and to their successors as wardens: - 4 trumpets and 4 clarions, the which 4 trumpets and 4 clarions John Standelf, John atte Water and their fellow wardens had had newly made. And every trumpet consists of 7 pieces marked by the letters abc. And every clarion consists of 8 pieces marked by the letters abc. And there are also another 11 unmarked lengths. And 16 gilt pommels. The total of all the pieces of the aforesaid trumpets and clarions amounts to - 87, weighing 22lb 7 $\frac{3}{4}$ oz Troy weight.

And all the old silver pipes [wind instruments] as written up at the time they were made and as appears more plainly in the register, how many there are and their weight in Troy weight.

That is, there were 4 trumps with 7 pieces, plus 4 clarions with 8 pieces, plus 11 unmarked bits, plus 16 bosses, which adds up to 87 pieces. The total weight of 22lb 7 $\frac{3}{4}$ oz for the eight, compared with the 12lb 1oz (or 11lb 7oz) for the trumpets and clarions in the first entry, and the 6lb 8 $\frac{3}{4}$ oz for the two 'old trumpets', makes it clear that the reference in Richard II's reign, where only a total weight is given, was for two trumpets and two clarions.

Troy weight has been used for precious metals (and by apothecaries) since Saxon times.⁹ The troy pound (5,760 grains) is lighter than the avoirdupois (henceforth a.d.p.) pound (7,000 troy grains). In troy

marks	oz	s.	d.		oz	d.
10	8	-	10	trumpets	88	10
7	-	-	10	clarions	56	10
-	11	-	8	small shawm	11	8
4 $\frac{1}{2}$	1	-	5	bombarde	37	5
24	-	9	2	great shawm	29	12
1	-	-	11	cornemuse	8	11
					229	56
Total: 28	7	-	16	or	23	1oz 16d.

Table 1. *Instrument weight equivalents.*

weight there are only 12 ounces (ozt) to the pound, the ounce (one-twelfth of its pound) being 480 grains, whereas the a.d.p. ounce (one-sixteenth of its pound)

⁵ Ibid., p. 194. See note 18 below for the method used to convert weights from troy to avoirdupois and grams.

⁶ Ibid., p. 194. See note 18 below for the method used to convert weights from troy to avoirdupois and grams.

⁷ Ibid., p. 124. Trumpeters and other minstrels are noted from time to time in later years, usually with what they were paid.

⁸ Ibid., p. 390.

⁹ R. D. Connor, *The Weights and Measures of England* (London: HMSO for the Science Museum, 1987), p. 120, referring to a weight of the eighth/ninth century weighing 247.4 grams, compared with the Troy weight for the mark of 248.9 grams.

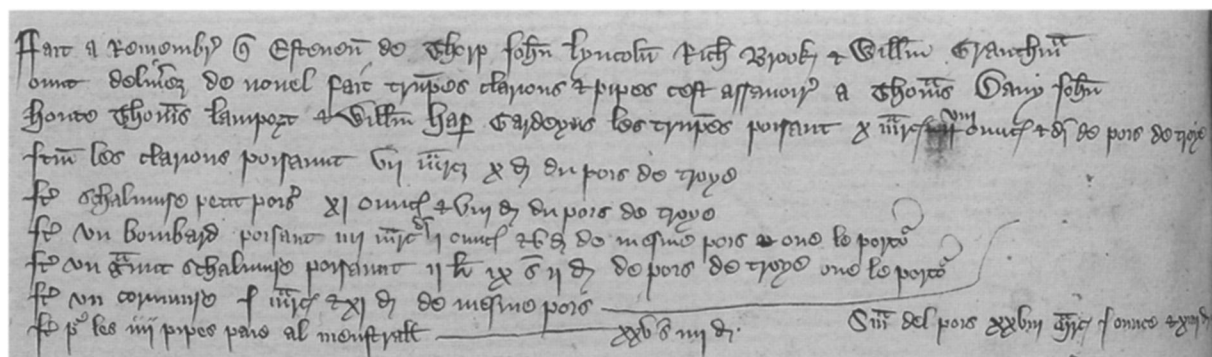


Figure 1. *The Goldsmiths wardens 1391-2 receive instruments.* © Courtesy of the Worshipful Company of Goldsmiths.

equals 437.5 troy grains. The mark is 8 ounces or two-thirds of a troy pound; 13s. 4d., its value, and 6s. 8d., that of the half-mark, remained common legal fees in Britain until decimalisation, and its name remained that of a standard unit of currency in other European countries until the introduction of the Euro. There are in troy, and in our pre-decimal currency, as older readers will remember, 20 shillings to the pound, and 12 pennyweights to the shilling; there are 20 pennyweights to the ounce. There are 24 grains to the pennyweight. The reason that the references quoted here continually specify 'pois de Troye' is that another standard, Tower weight, was also in use at this period, as with the repair noted above where it is referred to as 'goldsmith's weight', with a pound of only 5,400 troy grains. The Tower pound was abolished by Henry VIII in 1526-7, leaving troy to survive to the present day.¹⁰ Comparing weights from the time of Edward III and other early periods with the modern standards, shows that troy in the Middle Ages was within 1.26% and even 0.6% of its modern value.¹¹

The first question that comes to my mind is how does one distinguish between trumpets and clarions. Both are frequently referred to in mediæval literature,¹² but I have never encountered any definitive distinction between them. The fact that the clarions here had more parts, eight as against seven for trumpets does not help. Was one straight and the other folded? But then one would assume two extra parts for the necessary two U-bends,

rather than one. Certainly folded trumpets were used in England at this date. One is shown on the wall of the Chapter House of Westminster Abbey, almost exactly contemporary with our first reference here, though it looks more looped, or coiled, than folded and there is no suggestion of U-bends.¹³ Were both straight, one smaller than the other? We have many iconographic examples of two clearly different lengths, and I am strongly inclined to believe that this was the difference, a belief bolstered by the fact that the two 1391-92 clarions were only three-quarters of the weight of the two trumpets (see above to justify the assumption that there were two of each). Personally, I would take this weight difference as definitive, but until someone comes up with contemporary captioned illustrations, as Laurence Wright did with citoles and gitterns, we cannot take it as proven.¹⁴

Identifying the seven or eight 'pieces' is only possible today by comparison with the Billingsgate trumpet.¹⁵ This, now in the Museum of London, is dated no more precisely than to the fourteenth century, and is the only known surviving English trumpet of anywhere near this period. It is made up (it was not all one instrument originally) of four yards or straight lengths, mouth yard, upper middle yard (certainly not original to the other three), lower middle yard, and bell yard. The mouthpiece is integral to its yard, so that would not be regarded as a separate piece, though its rim, a separate strip

¹⁰ This information has been taken from Charles James Jackson, *English Goldsmiths and their Marks*, 2nd edn, (London: Macmillan, 1921; reprinted New York: Dover, 1964), pp. 5-6.

¹¹ Connor, pp. 129 and 128 respectively.

¹² Henry Holland Carter's *Dictionary of Middle English Musical Terms* (Bloomington: Indiana University Press, 1961; reprinted New York: Kraus Reprint Corp., 1968) is a useful source.

¹³ Jeremy Montagu, 'The restored Chapter House wall paintings in Westminster Abbey', *Early Music* XVI:2 (May, 1988) 238-49, p. 242, fig. 7.

¹⁴ Laurence Wright, 'The Medieval Gittern and Citole: A case of mistaken identity', *GSJ* XXX (1977), 8-42.

¹⁵ John Webb, 'The Billingsgate Trumpet', *GSJ* XLI, 1988, 59-62; Graeme Lawson & Geoff Egan, 'Medieval Trumpet from the City of London', *ibid.* 63-6; Graeme Lawson, 'Medieval Trumpet from the City of London II', *GSJ* XLIV, 1991, 150-6, and my examination of the instrument through the kindness of John Clark, 24 May 2006.

of metal soldered on, might have been. The bell has a garland of a separate strip of metal, also soldered to it. The bell seems to be integral with its yard, though later instruments often had a joint at that point under the supporting ball, and this may have sometimes been true in this period, for it would make construction easier to have the part which must be hammered to expand it into a bell separate from the rest of the tubing. There are two balls or bosses, one on the bell yard where the expansion begins, the other on the lower middle yard., each made up of two approximate hemispheres of brass; these would come under the term 'pomellis', but each has a bead before and after it which might also be considered as 'pieces'. With the yards themselves and these various added bits of metal, there is thus no difficulty in producing a list of seven possible pieces, and although the Billingsgate trumpet is brass it is a reasonable assumption that silver instruments would have been made in the same way.

Incidentally, I saw no trace of lettering on any of the Billingsgate yards (admittedly I was not looking for them, because I had not then known this source), and I presume that Graeme Lawson would certainly have spotted them if there were any. Certainly lettering would help to ensure that each separate piece went on or into the correct yard. It is a reasonable assumption that such trumpets and clarions were disassembled for safe storage between uses, probably also for cleaning, and lettering would ensure that they were reassembled correctly and, with eight instruments, that pieces were not mixed up between them.¹⁶

Lawson gives Billingsgate a weight of 273.04g¹⁷ (9.6oz a.d.p.), which seems to me extraordinarily light for 1610 mm of brass tubing (his measurements), and that weight does not compare well with around 5 marks troy 4 ozt (44 ounces troy) (48.27oz = 3lb ¼oz a.d.p., or 1368.6g) for each of the 1391-2 trumpets or 3 marks 6ozt (32.9oz = 2lb 1oz a.d.p., or 933.1g) for the clarions, and around 5 marks (43.9oz = 2lb 12oz a.d.p., or 1244.1g) each for the two older trumpets.¹⁸

There is no way to ascertain what the 'othir

xi longettys' might have been. Dr Jefferson has suggested the possibility of spare parts, in case of subsequent loss or damage.¹⁹ Were tuning bits and crooks in use as early as this? The earliest illustration of crooks that I know are those in Praetorius's plate VIII. If eight of the 'longettys' were mouthpieces (though one should remember that the mouthpiece on the Billingsgate trumpet is integral with the upper yard), what were the other three?

The 'xvi pomellis' we may presume were two decorative and supportive bosses for each instrument, such as we see in every contemporary illustration, and as there are on the Billingsgate trumpet, or, if the clarion were shorter than the trump, perhaps three for each trump and one for each clarion, as we also sometimes see in the iconography.

But to turn to the main purpose of this article, the woodwind instruments. We have four listed, three shawms of different sizes and a cornemuse. Whether that last was a hornpipe or a bagpipe, one cannot say. But the hornpipe was fairly rare outside folk usage, for example the stock and horn in Scotland and the pibcorn in Wales,²⁰ whereas the bagpipe appears in almost every mediæval iconographic source. If it were the bagpipe, presumably only the chanter would have been of silver,²¹ and, if it were a hornpipe, with only the normally-wooden part of silver, retaining its horn bell and perhaps windcap. Certainly it is the lightest of the four instruments, at just over 8½ troy ounces (9.3oz a.d.p., or 264.4g), too light one would think for one or more horns, or a drone, also to be of silver.

Of the three shawms, one is small, weighing just under 11½ troy ounces, just under a troy pound (12.6oz a.d.p., or 357.7g). The second is a bombard, which we normally equate with the tenor or bass shawm with a bottle bell,²² weighing 3lb 1¼ozt (40.8oz = 2lb 8¾oz a.d.p., or 1158.6g). The third, the 'graunt schalmuse' weighs just over 2lb 5½ozt (32.37oz = 2lb ½oz a.d.p., or 917.6g).

I have a large number of modern ethnographic shawms to hand. One pair, treble and tenor, from Macedonia might be comparable with the 'petit' and

¹⁶ Eric Halfpenny, in his 'Two Oxford Trumpets', *GSJ* XVI (1963), 49-58, demonstrated that English Stuart trumpets were also originally separable in this way (pl. VI and pp. 56-7).

¹⁷ Lawson (1991), 156.

¹⁸ I have used the conversion factors published by www.simetric.co.uk and checked them by converting everything to grains and then back again from the equivalents given by Jackson, for which see the text and note 10 above.

¹⁹ Email 21 November 2006.

²⁰ The only iconographic example that comes to mind is in the windows of the Beauchamp Chapel at St Mary's, Warwick of the 1440s, where we can see both double and single pibcorns (my *World of Medieval & Renaissance Musical Instruments* (Newton Abbot: David & Charles, 1976), pl. 58).

²¹ A bagpipe without drone also appears in the Chapter House, fig. 9.

²² See my 'A Carved Wooden Figure at Haddon Hall', *GSJ* XXXIII (1980), 128-9 and plate XI; also Gwen's and my

'graunt' schalmuses. The treble weighs around 4oz a.d.p. (c.125g), the tenor weighs just over 13oz (c.405g).²³ The proportions are not too different, the Goldsmiths' 'graunt' being 2.6 times the 'petit' and the Macedonian being 3.25 times. A pair from Thailand weigh 5¼ and 12oz a.d.p. (c.165 and 370g), the difference being 2.3 times, much closer to the Goldsmiths' 2.6.²⁴ Regrettably, I have nothing resembling a bombard. Since the woods of my shawms have not been identified (and the Thai instruments have very lightweight brass bells on wooden bodies) comparing their specific gravities with those of silver is not practicable. However, the differences between my shawms and those of the Goldsmiths seem great enough to eliminate one idea, which had crossed my mind, that the silver might have been an overlay on wood, more elaborately and more completely than with the well-known Richters oboe at Waddesdon Manor, for example.²⁵

The payment to the minstrel of 25s. 4d. is so much less than the value of the metal that it cannot be a purchase price. Might it have been a purchase price for normal instruments to be copied in silver? But for that it seems to be on the high side. Nor does it seem likely that a minstrel, rather than a silversmith, would have made the instruments. However, Dr Jefferson has suggested to me that a woodwind maker might well have been needed for technical advice, for would a silversmith have known how to make a shawm, with the correct bore and other details?²⁶ This does seem to be the most likely explanation, especially considering the problems of compensating for different fingerhole lengths between a thickish wall of wood and a thin wall of silver, exemplified by the fingerhole chimneys on more recent metal instruments. His help might also have been needed to test and approve the finished

instruments, as well as providing suitable reeds. But to this, as with so many details in mediæval writings, we have no definite answer. Quite clearly, to my mind, this entry in the Wardens' Accounts shows that silver woodwind were known and made in the late Middle Ages, long before Cornelius Ward, Theobald Boehm, and other makers produced them in the nineteenth century. What we do not know, as yet, is whether these were a one-off or whether this was accepted practice in mediæval times.

One thing is clear: we must be much more careful when looking at the iconography, and we must note the colour of instruments shown, which also means looking at original manuscripts and not, as I have often done to save handling them, being content with black-and-white reproductions. Thanks to its full-colour reproduction by the Fitzwilliam Museum on CD-ROM, this is easily done with the Macclesfield Psalter, which dates from about 60 years earlier than the first of the Goldsmiths' entries.²⁷ A quick run through the CD reveals a number of trumpets of brass colour,²⁸ and one short trumpet (which I hope we can now accept as a clarion) clearly of silver (f. 69v),²⁹ but, as a warning, one long trumpet is bright red with gilt bosses (f. 95v) and one fiddle is also bright red (f. 80v),³⁰ so that either we must acknowledge that some instruments were painted or that manuscript illustrations are not always reliable. However, one other illumination could be useful: the bagpipe on f. 164 has a brown wood-coloured chanter and a brass-coloured long trumpet drone, showing that such drones, identical with trumpets in appearance, with a flared bell and commonly as here with at least one boss on the tubing, were, at least in this case, really of metal.

JEREMY MONTAGU

²² (continued) 'Beverley Minster reconsidered', *Early Music* VI:3 (July, 1978), 401–15, fig. 46; alternatively our *Minstrels & Angels* (Berkeley: Fallen Leaf, 1998), pl. 93.

²³ Since these weights include staples, reeds, and for the two Macedonian instruments the internal fork, and since they were taken on the kitchen scales rather than risk suspending them from a more precise gauge, they can only be taken as approximate equivalents.

²⁴ For those who have my *Reed Instruments catalogue* (Lanham: Scarecrow, 2001), these are IV 162 and IV 160 (p.20) and VIII 224 a & b (pp. 32–3) respectively.

²⁵ Jan Bouterse, *Dutch Woodwind Instruments and their Makers 1660-1760* (Utrecht: Koninklijke Vereniging voor Nederlandse Muziekgeschiedenis, 2005), ref. RS5.

²⁶ Email 22 November 2006.

²⁷ Fitzwilliam Museum ms. 1-2005, available from fitzmuseum-photography@lists.cam.ac.uk. See also my article on the manuscript, 'Musical instruments in the Macclesfield Psalter', *Early Music* XXXIV:2 (May 2006) 189–204.

²⁸ 'Musical instruments in the Macclesfield Psalter', op. cit., Fig. 1.

²⁹ Identical in shape, though not in colour, to fig. 2 in my article. Dr Jefferson adds the warning note (email 21 November 2006) that silver leaf was used in medieval mss as well as gold, but silver tarnishes. In heraldic depictions where silver has been used, she has found tarnished silver and has also seen the whole rubbed off, leaving a bit of a mess.

³⁰ The fiddle is fig. 4 in my article on the psalter cited above.